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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,788	08/01/2001	Gordon James Yorke	OR02-13501	5192

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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/920,788

Applicant(s)

YORKE ET AL.

Examiner

Lewis A. Bullock, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-13 and 15-34 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 5-13 and 15-34 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 01 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5, 7-13, 15, 17-22, and 24-34 are rejected under 35 U.S.C. 102(b) as being anticipated by ROTHROCK (U.S. Patent 5,408,470).

As to claim 1, ROTHROCK teaches a method for providing object change information (blocked object changes) from a first system (participant system) to a second system (another participant system) for synchronizing (deferred synchronizing) the second system with the first system, the second system having an object cache for storing objects (local memory / associated media device storing objects) (col. 4, lines 59-65), the method comprising the steps of: changing an object in the first system (via participant / arbitrator adding, modifying, or deleting an object); determining minimal object change information (blocked change information containing index of the changed object) representing a change made to the object in the first system; and distributing the object change information directly (blocked change information containing index of the

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changed object) from the first system (requesting participant) to the second system (participant / arbitrator) to cause the second system to merge the object change information (synchronize the object change) into the object cache so as to synchronize the second system with the first system (col. 9, line 60 – col. 12, line 46). ROTHROCK also teaches that object managers of the participants keeps track of participants such as when a participant joins the meeting that after the joining their objects are synchronized (col. 7, lines 47-54). Therefore, it is inherent within the teachings of ROTHROCK that a system (participant) registers to the first system (initial participant) prior to the distribution of the change information from the first system to the second system since the first system synchronizes the local changes to the remote participants after they are approved by the arbitrator and therefore must know the other registered participants in the meeting.

As to claim 2, ROTHROCK teaches a communication link between the first system and the second system (communication medium between participants) (col. 6, lines 14-30; col. 4, lines 42-48) and that object managers of the participants keeps track of participants such as when a participant joins the meeting that after the joining their objects are synchronized (col. 7, lines 47-54). It is inherent within the teachings of ROTHROCK that when a participant joins a meeting a communication link is established between the joining participant and the meeting participant such that changing of an object in the meeting is propagated to the other participants including the joining participant.

As to claim 5, ROTHROCK teaches sending the object change information to a database (arbitrator's copy of objects) for updating the object in the database with the object change information (via sending the change regarding the object to another participant for synchronization with that copy of the object) (col. 9, line 60 – col. 12, line 46).

As to claim 7, ROTHROCK teaches the first system (participant) includes an object cache for storing one or more objects (memory storing local copy of object), and the method further comprises a step of merging the object change information into the object cache of the first system (via sending the change regarding the object to another participant for synchronization with that copy of the object) (col. 9, line 60 – col. 12, line 46).

As to claim 8, ROTHROCK teaches the determining step determines the object change information (blocked change information containing index of the changed object) as a minimal set of information representing the change made to the object (via the change details the modification to the object and not every object in the meeting) (col. 9, line 60 – col. 12, line 46).

As to claim 9, ROTHROCK teaches the determining step determines the object change information to include a primary key (object index) identifying the object (col. 9, line 60 – col. 12, line 46).

As to claim 10, ROTHROCK teaches the object include an attribute for containing object data or a value of a relationship with one or more, other object (col. 8, line 47 – col. 9, line 59), and the determining step determines the object change information (blocked change information containing index of the changed object) to include a change made in the attribute of the object (via modification to an existing object) (col. 11, lines 3-7).

As to claim 11, ROTHROCK teaches the first system (participant) includes a cache for storing one or more objects (memory storing local copy of object), the method further comprising the steps of: receiving object change information (blocked change information containing index of the changed object) distributed from the second system (participant) and containing information of changes made to one or more objects in the second system (changes made by the participant); and merging the object change information (blocked change information containing index of the changed object) received from the second system (participant) into the objects in the cache of the first system to synchronize the first system with the second system (via deferred synchronization between any participants) (col. 9, line 60 – col. 12, line 46).

As to claims 12, 13, 15 and 17-20, refer to claims 1, 2, 5, 7-9, and 11 for rejection. Claim 12 further details the first and second systems having object caches for storing objects and the distributing step causes the respective object in the second

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cache to be synchronized with the changed object in the first system. ROTHROCK teaches the first and second systems (participants) having object caches for storing objects (memory storing local copy of objects) and the distributing step causes the respective object in the second cache (object in a participants local memory) to be synchronized with the changed object in the first system (changed object in a participants local memory) (col. 9, line 60 – col. 12, line 46).

As to claims 21, 22, 26 and 27, reference is made to an apparatus, i.e. synchronization executor that corresponds to the method of claims 1, 2, 8 and 9 and is therefore met by the rejection of claims 1, 2, 8 and 9 above. Claim 21 further details the system comprising a synchronization manager for obtaining object change information representing a change made to an object in the first system. ROTHROCK teaches the system comprising a synchronization manager (object manager) for obtaining object change information representing a change made to an object in the first system (participant system) (col. 6, line 60 – col. 7, line 18).

As to claims 24 and 25, ROTHROCK teaches a connector (multi-point function) for obtaining the object change information that is distributed from the second system (col. 6, lines 14-30).

As to claims 32-34, reference is made to a computer readable medium, an electric signal, and a computer program product that corresponds to the method of claim 1 and is therefore met by the rejection of claim 1 above.

As to claim 28, ROTHROCK teaches a persistence system (participant) for synchronizing an object (object) on a network, the network including a caching system (another participant) having an object cache for storing objects (memory storing local copy of object), the persistence system comprising: a transaction manager (human interface layer / object manager) for changing an object and determining object change information (blocked change information containing index of the changed object) representing the change made to the object for updating a database (copy of objects) (col. 7, lines 13-18); and a synchronization executor (object manager / multi-point process) for obtaining the object change information from the transaction manager and distributing the object change information to the caching system (another participant) to cause the caching system to merge the object change information into the object cache so as to synchronize (via deferred synchronization / the object manager forwards the synchronization information to the other participants through the multi-point process) the object in the object cache with the changed object in the persistence system (col. 6, line 14 – col. 7, line 25; col. 9, line 60 – col. 12, line 46). ROTHROCK also teaches that object managers of the participants keeps track of participants such as when a participant joins the meeting that after the joining their objects are synchronized (col. 7, lines 47-54). Therefore, it is inherent within the teachings of ROTHROCK that a

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caching system (participant) registers to the persistence system (initial participant) prior to the distribution of the change information from the persistence system to the caching system since the persistence system synchronizes the local changes to the remote participants after they are approved by the arbitrator and therefore must know the other registered participants in the meeting.

As to claim 29, ROTHROCK teaches a persistence system cache for storing one or more objects (memory storing local copy of object) (col. 4, lines 42-65).

As to claim 30, ROTHROCK teaches the transaction manager merges the object change information into the persistence system cache (memory storing local copy of object) (col. 6, line 14 – col. 7, line 25).

As to claim 31, ROTHROCK teaches the synchronization executor communicates over the network (col. 6, lines 14-30), and the dispatcher distributes the object change information via the network (col. 7, lines 47-54). It is inherent within the teachings of ROTHROCK that when a participant joins a meeting a communication link is established between the joining participant and the meeting participant such that changing of an object in the meeting is propagated to the other participants including the joining participant.

3. Claims 1, 2, 5-13, 15-22, and 24-34 are rejected under 35 U.S.C. 102(e) as being anticipated by ZHU (U.S. Patent 6,792,436).

As to claim 1, ZHU teaches a method for providing object change information (change request / transaction information) from a first system (sender) to a second system (receiver) for synchronizing (synchronizing) the second system with the first system, the second system having an object cache for storing objects (local cache of objects), the method comprising the steps of: changing an object in the first system (via sender creating, updating, or deleting an object); determining minimal object change information (change request / transactional information) representing a change made to the object in the first system; and distributing the object change information (change request / transaction information) directly from the first system (sender) to the second system (receiver) to cause the second system to merge the object change information (synchronize the object) into the object cache so as to synchronize the second system with the first system (col. 6, line 35 – col. 7, line 45). ZHU also teaches that the sender system synchronizes a change with the receiver system once the database has approved of the change (col. 6, line 35 – col. 7, line 45). Therefore, it is inherent within the teachings of ZHU that the receiving system must register to sending system prior to the distribution of the change information from the sending system to the receiving system since the local changes to the sending system are sent after they are approved by the database and therefore the sending system must know the other registered system in order to send it the changes. ZHU also teaches both systems have caches, the sending of the change information (change request / transaction information) to a

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database (central database) wherein the database determines if an error message (update / delete / create has failed) should be sent, the merging of change information with the object caches (fig. 3, step 128); the sending of minimal information within the change information (col. 6, lines 12-28), a primary key (primary key / OCAs) sent with the change information, and a change in attribute of an object (col. 6, line 35 – col. 7, line 45; fig. 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over ROTHROCK (U.S. Patent 5,408,470).

As to claim 3, ROTHROCK teaches communications medium is any type of communications medium using any one of the various networking standards (col. 6, lines 14-25). Official Notice is taken in that publish/subscribe protocol is a well known communication standard and therefore would be obvious in view of ROTHROCK in order to communicate change information.

As to claims 23, refer to claim 3 for rejection.

6. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over ZHU (U.S. Patent 6,792,436).

As to claim 3, ZHU teaches the invention is implemented in a wide range of digital computing network configurations (col. 4, lines 52-65; col. 10, lines 6-38). Official Notice is taken in that publish/subscribe protocol is a well-known network communication configuration and therefore would be obvious in view of ZHU in order to communicate object change information.

As to claims 23, refer to claim 3 for rejection.

7. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over ROTHROCK (U.S. Patent 6,792,436) in view of ZHU (U.S. Patent 6,792,436).

As to claim 6, ROTHROCK teaches the synchronization of objects within agents (col. 6, line 60 – col. 7, line 7). However, ROTHROCK does not teach receiving an error message from the database when the updating fails.

ZHU teaches synchronization of object systems comprising the steps of receiving an error message from the database when the updating of the object in the database fails (col. 6, lines 65-67; col. 7, lines 8-9; col. 7, lines 12-14). It would be obvious to one skilled in the art at the time of the invention based on the combination that since the agents of ROTHROCK must synchronize with the arbitrator's copy of objects, i.e. the central database of ZHU, that if the database fails to make the change then the change

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information must be discarded and not distributed to the other agents. Therefore, it would be obvious to one skilled in the art to combine the teachings of ROTHROCK with the teachings of ZHU in order to facilitate the synchronization of individual caches without having to constantly query the central database (col. 3, lines 31-34).

As to claim 16, refer to claim 6 for rejection.

Response to Arguments

1. Applicant's arguments filed 5/31/05 have been fully considered but they are not persuasive.

Applicant argues that the invention of Rothrock requires an arbitrator to facilitate communication between participants such that Rothrock requires a system to first communicate with an arbitrator before communicating with another system while the present invention does not require an arbitrator to facilitate communication between two systems. Specifically, in the present invention, a first system can directly distribute "the object change information from the first system to the second system to cause the second system to merge the object change information into the object cache so as to synchronize the second system with the first system" (response, pg. 12-13). The examiner disagrees. Rothrock states that no individual participant is dependent upon the accessing of a central server for the display of its own information (col. 9, lines 65-67), however, each participant are required to keep their versions synchronized with the

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arbitrator's official copy (col. 9, line 67 – col. 10, line 9). The teachings of Rothrock detail that the arbitrator of the conference is the original participant that began the meeting (col. 10, lines 9-11) and that the system is for deferred synchronizing of a plurality of participants. Therefore, in a synchronization system of a plurality of participants, in particular in a system having two participants, one is designated the arbitrator while the other is a remote participant. Applicant claims detail a first system making a change and sending minimal object change information to a second system to cause the second system to merge the object change information into the object cache to synchronize the second system with the first system. This would include wherein a remote participant makes a change and sends the change to the arbitrator for synchronization or the arbitrator participant making a change and sending the change information to the remote participant to synchronize. Applicant is attempting to state that Rothrock teaches away from the limitation of distributing object change information directly from the first system to the second system by an example of three systems wherein one system is performs the change and sends the change information to an arbitrator system which delegates the change to a further participant. M.P.E.P.

2131.05 states

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2131.05 [R-2] Nonanalogous Art

"Arguments that the alleged anticipatory prior art is nonanalogous art' or teaches away from the invention' or is not recognized as solving the problem solved by the claimed invention, [are] not germane' to a rejection under section 102." *Twin Disc, Inc. v. United States*, 231 USPQ 417, 424 (Cl. Ct. 1986) (quoting *In re Self*, 671 F.2d 1344, 213 USPQ 1, 7 (CCPA 1982)). >See also *State Contracting & Eng'g Corp. v. Condotte America, Inc.*, 346 F.3d 1057, 1068, 68 USPQ2d 1481, 1488 (Fed. Cir. 2003) (The question of whether a reference is analogous art is not relevant to whether that reference anticipates. A reference may be directed to an entirely different problem than the one addressed by the inventor, or may be from an entirely different field of endeavor than that of the claimed invention, yet the reference is still anticipatory if it explicitly or inherently discloses every limitation recited in the claims.) <

A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. The question whether a reference "teaches away" from the invention is inapplicable to an anticipation analysis. *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The prior art was held to anticipate the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed."). See also *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1349, 51 USPQ2d 1943, 1948 (Fed. Cir. 1999) (Claimed composition was anticipated by prior art reference that inherently met claim limitation of "sufficient aeration" even though reference taught away from air entrapment or purposeful aeration.)

M.P.E.P. 2123 states:

2123 Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments

PATENTS ARE RELEVANT AS PRIOR ART FOR ALL THEY CONTAIN

"The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989). See also *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed.").

NONPREFERRED EMBODIMENTS CONSTITUTE PRIOR ART

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. *In re Susi*, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.)

Therefore, since Rothrock teachings allow for two participants as the plurality of participants wherein one is the arbitrator participant such that synchronization is performed based on the arbitrator participant performing the change and sending the change information to the remote participant or the remote participant performing the change and sending the change information to the arbitrator participant as detailed in the claims, Rothrock adequately teaches the claim language even though in situations of more than two systems the teachings would teach away.

Applicant then argues that Zhu is directed towards sending the full information of a cached object, i.e. that all fields of an object are sent (Zhu, col. 6, lines 13-15), while the present invention is specifically directed towards sending minimal information of a cached object. The examiner disagrees. Applicant's claims detail determining minimal object change information representing a change made to the object. Changes to objects include creating an object and deleting an object. There is no express definition or claim language detailing to what extent the change information is minimal. Some prior systems of object synchronization sent all objects to a remote system for synchronization even though some objects were never changed (U.S. Patent 6,289,357, U.S. Patent 6,272,545, and U.S. Patent 6,128,661 all cited in prior Notice of References Cited). Therefore, minimal change information was defined and interpreted by the examiner to be change information that allows for the proper synchronization of objects without sending the unnecessary information, i.e. information regarding objects that have not changed. The system of Zhu only sends information regarding the change of a particular object. For instance, in the paragraph Applicant is referring during create

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requests, the full object state of the cache object is sent, whereas in delete requests the full object state of the cache object is not sent but only an optimistic control attribute and information needed to identify the cache object for subsequent deletion (col. 6, lines 12-28). When one has created an object on one system and synchronizes with another system, change information sent to the other system must have all attributes of the object in order to properly create a duplicate copy of the object. Zhu also explicitly states that for delete request the attributes are not sent, but only an identifier of the object to delete. Therefore, depending on the type of change information sent, certain minimal data, i.e. when an object needs to be created, only the object and any attributes of the object to properly synchronize the object on systems, or when deleting an object only an identifier of the object, is sent. Therefore, Zhu also allows for less data to be sent across the communications link and adequately teaches the limitation as disclosed wherein an object in the first system is changed (via adding or deleting) and determining and distributing minimal object change information to a second system for synchronization (via sending an object with its attributes for create request or sending an identifier of the object without its attributes for delete request).

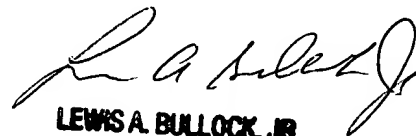
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 5, 2005



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER